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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,627

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EXAMINER

PAPE, ZACHARY

ART UNIT

PAPER NUMBER

2835

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,627	Applicant(s) HALL ET AL.
	Examiner ZACHARY M. PAPE	Art Unit 2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/16/2006, 12/19/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 8/16/2006 and 12/19/2007 have been fully considered and are attached hereto.

Specification

2. The abstract of the disclosure is objected to because the abstract is merely the cover page of WO 2005/081401.

Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claims 1, 3, 4, 11, 13, 15, and 18 are objected to because of the following informalities:

Claim 1 recites, "second circulation means are" which should be changed to read, "second circulation means is"

Claim 3 recites, "comprise" and should recite, "comprises".

Claim 4 recites, "the apertures" which lacks antecedent basis. It appears it should be changed to read, "the one or more apertures".

Claim 11 recites, "wherein the first and second heat exchange structures" which is incorrect since claim 11 depends from claim 10 and claim 10 depends from claim 1. It appears that claim 10 should therefore depend from claim 9.

Claim 13 recites, "are mounted" and should be changed to read, "is mounted".

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Claim 15 recites, "the apertures" which lacks antecedent basis. It appears it should be changed to read, "the one or more apertures".

Claim 15 recites, "an outlet" which should be changed to read, "the outlet".

Claim 18 recites, "the first surface" which lacks antecedent basis. It appears it should be changed to read, "the first cover".

Appropriate correction is required.

112 6th Paragraph Implementation

4. In claim 1, the limitations:

"first circulation means"

"second circulation means"

"heat transfer means"

In claim 15, the limitations:

"path defining means"

Are considered to implement 112 6th paragraph as per MPEP 2181.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites, "heat transfer means between the enclosure and the surrounding space" which is unclear since the heat transfer means (78) appears to be in the surrounding space (See Fig 2). For the purposes of examination the limitation will be considered to read, "heat transfer means disposed on either side of the first cover"

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9-17, 19-20, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Tikka (US 2001/0052412).

With respect to claims 1, 19, and 20, Tikka teaches (In Fig 1) an electrical apparatus having a cooling system, the apparatus comprising: a first cover (Portion which 100 directly attaches) defining an enclosure for housing part of the electrical apparatus (1) to be cooled; a second cover (Portion with holes labeled "air out" and "air in") substantially enclosing the first cover to define a surrounding space (Ducting in which air flows) therebetween, the surrounding space having an (fluid) inlet (Air in) and an (fluid) outlet (Air out); first circulation means (102) for causing air to circulate in the

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enclosure; and second circulation means (105) for causing a cooling fluid to circulate around the surrounding space between the first and second cover; heat transfer means (100) disposed on either side of the first cover such that heat is transferred from the enclosure to the cooling fluid in the surrounding space and out of the outlet (See Fig 1); and a base plate (See Present Office Action (POA) Fig A below) on which the first cover is mounted, the base plate having one or more apertures (adjacent the filter 104 and 105) communicating with the surrounding space; and wherein the second circulation means (105) is arranged outside of the surrounding space, such that there is a flow of cooling fluid adjacent the enclosure, through the one or more apertures and through the surrounding space (See Fig 1).

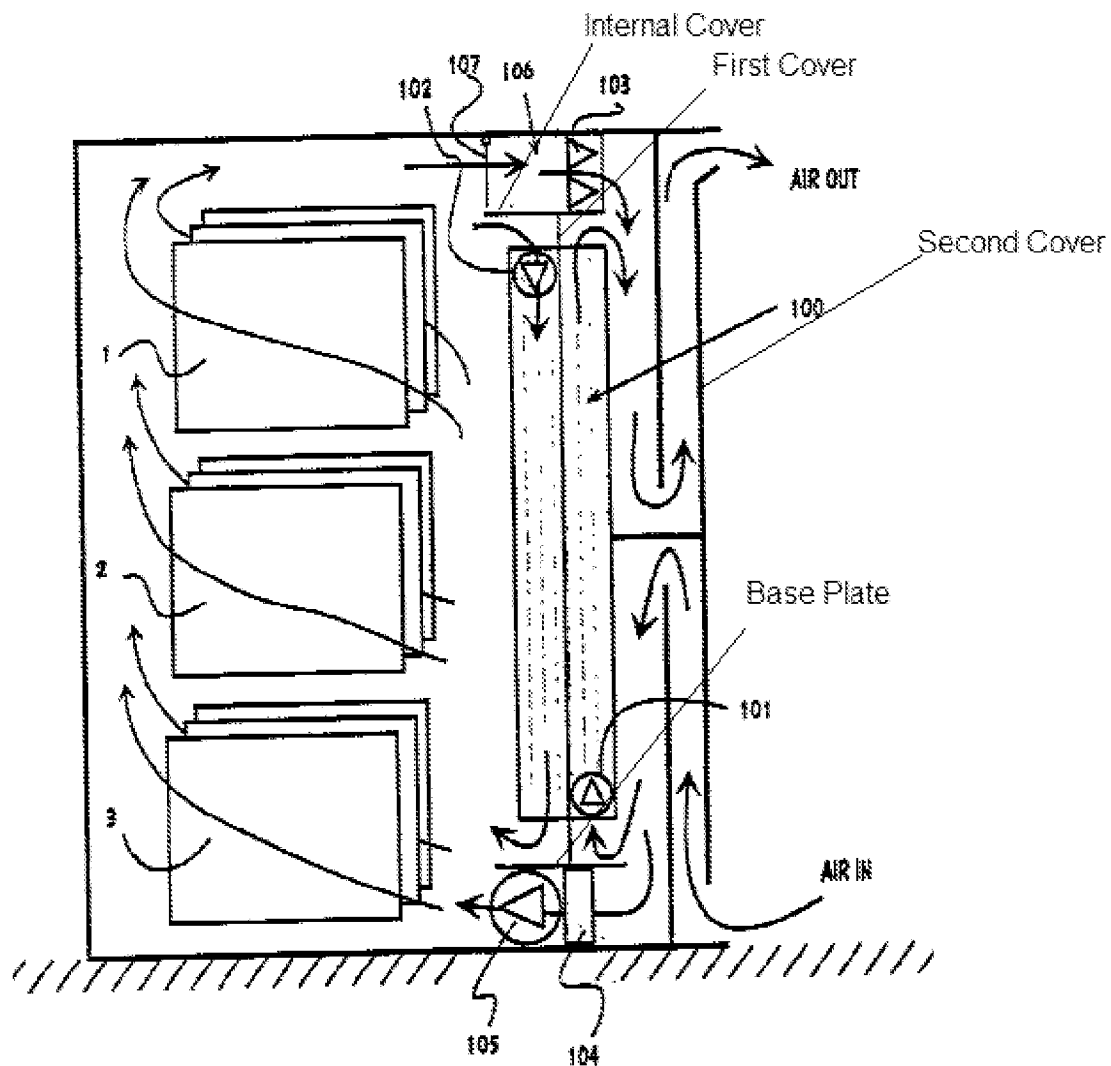


Fig A

With respect to claim 2, Tikka further teaches that the base plate and the first cover together define (in part) the enclosure for the electronic apparatus, and wherein the cooling system comprises a heat exchange structure (104) disposed on the base plate outside the enclosure in the flow of cooling fluid (See Fig 1, Filter 104 will surely

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pickup or deliver any heat to the fluid flowing therethrough and therefore, broadly, can be considered a heat exchange structure).

With respect to claim 3, Tikka further teaches that the second circulation means (105) comprises one or more fans mounted on the base plate (See Fig 1).

With respect to claim 4, Tikka further teaches a restriction in the flow of cooling fluid in the region of the one or more apertures (Via the filter, 104), such that fluid pressure forces cooling fluid through the one or more apertures.

With respect to claim 5, Tikka further teaches that the restriction (104) comprises a heat transfer structure (Filter 104 will surely pickup or deliver any heat to the fluid flowing therethrough and therefore, broadly, can be considered a heat transfer structure).

With respect to claim 9, Tikka further teaches that the heat transfer means (100) comprises a first heat exchange structure disposed on the inside of the first cover, within the enclosure (See Fig 1).

With respect to claim 10, Tikka further teaches that the heat transfer means comprises a second heat exchange structure disposed on the outside of the first cover, within the surrounding space (See Fig 1).

With respect to claim 11, Tikka further teaches that the first and second heat exchange structures are mounted in correspondence with each other on opposite sides of the first cover (See Fig 1).

With respect to claim 12, Tikka further teaches an internal cover (See POA A above) mounted in the enclosure creating a circulating fluid flow path in the enclosure.

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With respect to claim 13, Tikka further teaches that the first circulation means (101) is mounted on the internal cover (See Fig 1, wherein everything is mounted to one another).

With respect to claim 14, Tikka further teaches that the first cover comprises a heat exchange structure on its inside surface (See Fig 1), within the enclosure, and wherein the internal cover extends in the enclosure such that the circulating fluid flow path passes through the heat exchange structure (See POA Fig A).

With respect to claim 15, Tikka further teaches a path defining means (Partition between the first and second covers) disposed in the surrounding space defining a circulating path for the flow of the cooling fluid, between the one or more apertures and the outlet.

With respect to claim 16, Tikka further teaches that the path defining means comprises a ridge disposed on the first cover (Wherein the ridge and cover are indirectly disposed on one another and are therefore disposed onto each other).

With respect to claim 17, Tikka further teaches that the path defining means constrain the cooling fluid to flow substantially over the entirety of the surface of the enclosure (See Fig 1).

With respect to claim 24, Tikka further teaches that the outlet (Air out) joins the fluid flow path adjacent the enclosure (See Fig 1).

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tikka in view of the Examiner's Official Notice (EON).

With respect to claim 18, Tikka teaches the limitations of claim 1 as per above and further teaches a breather tube (106) housed in the first cover, a chamber (duct portion just to the right of 103 in Fig 1) in communication with the breather tube and with the enclosure (via the breather tube). Tikka, however, fails to specifically teach or suggest a desiccant material located in the chamber as claimed. The Examiner hereby takes Official Notice of using a desiccant material to remove moisture from air. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of EON with that of Tikka to, predictably, remove any moisture within the airflow.

With respect to claim 21, Tikka teaches the limitations of claim 1 as per above but fails to specifically teach or suggest the limitations of claim 21. The Examiner hereby takes Official Notice of the conventionality of the first cover, as taught by Tikka, being metal. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of EON with that of Tikka since, predictably, doing so will provide for a sturdy, long lasting cover.

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With respect to claim 22, Tikka teaches the limitations of claim 1 as per above but fails to specifically teach or suggest the limitations of claim 22. The Examiner hereby takes Official Notice of the conventionality of the second cover, as taught by Tikka, being plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of EON with that of Tikka since, predictably, doing so will provide for a cost-effective easy to manufacture cover.

With respect to claim 23, Tikka teaches the limitations of claim 1 as per above but fails to specifically teach or suggest the limitations of claim 23. The Examiner hereby takes Official Notice of the conventionality of making corners smoothed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of EON with that of Tikka to produce covers which has smoothed corners since, predictably, doing so will provide for a more aesthetically pleasing and aerodynamic cover.

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tikka in view of Stoller (US 6,877,551).

With respect to claim 6, Tikka teaches the limitations of claim 1 as per above and further teaches a heat exchange structure (portion of 100 within the enclosure) disposed in the flow of cooling and arranged to draw heat from the enclosure of the electrical apparatus (See Fig 1). Tikka, however, fails to specifically teach or suggest a partition defining an enclosure for a second part of the electrical apparatus that is to be cooled,

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the partition being attached to the base plate. Stoller, however, teaches (In Fig 2a) a partition (wall below 212 that defines the top of 214) which attaches to a base plate (vertical portion between 214 and 216) to create first and second parts within the enclosure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Stoller with that of Tikka since, predictably, doing so will provide a separate compartment for certain electrical components.

With respect to claim 7, Stoller further teaches that the second part (214) is situated on the opposite side of the base plate to the first part (See Fig 2a).

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tikka in view of Stoller and further in view of Applicant's Admitted Prior Art (AAPA).

With respect to claim 8, Tikka in view of Stoller teaches the limitations of claim 6 as per above but fails to specifically teach or suggest that the second part contains a vacuum tube device as claimed. AAPA, however, teaches a housing for a satellite uplink which includes a traveling wave tube (I.E. a vacuum tube). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of AAPA with that of Tikka and Stoller to, predictably, provide a means of amplifying a radio frequency in the telecommunications cabinet as taught by Tikka.

10. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Admitted Prior Art (AAPA) in view of Tikka.

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With respect to claims 25-26, AAPA teaches the limitations of claims 25-26, mainly a cabinet to house satellite uplink amplifiers/high power radio frequency amplifiers, but fails to specifically teach or suggest the remaining limitations of claim 1. Tikka, however, teaches an enclosure for housing and cooling telecommunications equipment as per the rejection to claim 1 above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Tikka with that of AAPA to provide a cooling system for an equipment cabinet that permits the operation of equipment over a wide temperature range (Tikka, Col 2, Lines 55-60).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZACHARY M. PAPE whose telephone number is (571)272-2201. The examiner can normally be reached on Mon.- Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Zachary M Pape/
Examiner, Art Unit 2835